

## Recommendations for EU Regulation 2018/574 implementation while minimising retail supply chain disruption

24 June 2019

**Disclaimer:** Please note that this **recommendation** for consideration and decision of GS1 members has been made to support the implementation of the regulation while minimizing disruption for GS1 member companies; nothing in this document is mandated by GS1, nor is it required by any legislation. GS1, as a neutral organisation, also restrains itself from any commercial decision resulting from this recommendation.

EU Implementing Regulation 2018/574 establishes a track and trace and data sharing system for tobacco products, in order to fight the illicit trade. The first implementation deadline was the 20th of May 2019 for cigarettes and roll-your-own tobacco. To meet the EU requirements, multiple technical solutions were developed by several solution providers. GS1 (GS1 Members involved in the development of GS1 standards) maintained focus on ensuring that decades-long investments of retail trading partners in GS1 supply chain standards could be leveraged, as much as possible, to support the new EU requirements. These include Serialised Global Trade Item Numbers (SGTINs) to identify serialised trade items at all levels of packaging and Serialised Shipping Container Codes (SSCC) for logistic units across all GS1 sectors.

The EU 2018/574 text clearly permits (but does not mandate) GS1 identifiers. It also requires all serialised identifiers for unit packs to be issued by independent third parties called "ID Issuers", which are appointed by each Member State. As of May 2019, the ID Issuers of both Portugal and Spain have adopted a GTIN-based unit pack identifier. The other ID Issuers have chosen to implement solutions that are based on proprietary and non-GS1 standards (which do not include the interoperable, familiar, standards based SGTIN). Independent of this, GS1 standards are positioned as the basis for the majority of reporting events. The object of this paper is to explain how this will occur and next steps for MOs.

### GS1 Member Impacts

Over the last two years, GS1 developed a GTIN-based unit pack Unique Identifier that:

- **Includes the GTIN:** This is relevant to downstream trading partners, for avoidance of the need to "double scan".
- **Is one of the shortest available:** It is 40-50% smaller than the longest codes required by some ID Issuers.
- **Is fully ISO/IEC conformant:** This is essential for global interoperability and the ISO/IEC conformance was requested by the EU 2018/574
- **Should not require major change to scanner processing software:** Most downstream scanners are already programmed to read GS1-compliant codes. The new code requires a new, Third-Party assigned serialized GTIN, but can be implemented with a minor incremental change (new AI, concatenation rules).

As anticipated Portugal and Spain are the only ID Issuers, thus far, who have adopted a GTIN-based unit pack Unique ID in a GS1 barcode. This means 26 out of 28 EU countries

will be adding a non-GS1 identifier and barcode on unit packs **that is incompatible with GS1 standards**. While the upUI barcode is not intended for retail point-of-sale scanning, retailers are reporting it will be as scanners scan whatever they encounter automatically. It will also be scanned by supply chain operators and consumers who do not know that it is only intended to support EU 2018/574 (not retail POS). The subject of non-GS1 versus GS1 barcode is very technical and many ID Issuers, economic operators, even AIDC solution providers are only now beginning to digest the complexity of how to operate where a non-GS1 barcode appears on unit packs sold at retail, scanned in pick and pack operations, etc. This may explain EU official Secondary Repository Provider Dentsu's 24 June Release Notes:

*"Transition warning message updated to "WARNING: This error message is sent when the UI in question has not been reported to the Secondary Repository and therefore cannot be validated. Here are the most common reasons that cause this message to occur: (a) the UI in question is a pre-TPD/legacy UI... ; (b) the UI in question is a new UI but has not been reported to the Router nor the Secondary Repository yet...; (c) **the UI in question has not been encoded or decoded in line with the existing formatting instruction (please check the clarifications on the reporting of Unique Identifiers available in Dentsu's data center: <https://eu-secondary.dentsuaegistracking.com> )"***

These instructions relate to ISO/IEC data capture specifications which are required now that non-GS1 identifiers and barcodes will appear on unit level packaging. As indicated, early implementation conformance is not meeting reporting requirements.

In countries adopting solutions that did not include GS1's GTIN in a GS1 barcode on unit packs, downstream trading partners (e.g., distributors, wholesalers, retailers) are signaling disruption may occur when:

1. GTIN, in a GS1 barcode, is **not** used on unit packs (note, "GS1 barcodes" have special start patterns that tell a scanner it is encountering a GS1 identifier like GTIN)
2. SSCC, in a GS1 barcode, is **not** used for transport (logistic) units and instead economic operators request transport unit identifiers from ID Issuers using an identifier not supported in the supply chain (most GS1 members are signaling they intend to assign SSCC themselves as SSCC supports the supply chain and regulatory requirements without change to their existing printing and scanning systems)
3. Many members have yet to implement imaging-based scanners required to scan GS1 DataMatrix and GS1 QR Code (and their non-GS1 equivalents) for all levels of packaging. Even those with imaging-based scanners, for the most part cannot decode GS1 DotCode (an the non-GS1 equivalent).

After considering these factors, GS1 is making the following recommendations to support immediate reporting to the EU Secondary Repository Provider Dentsu:

### **Recommendations for consistent standards-based implementations:**

1. **For B2B trade** (e.g., distributor to wholesaler or retailer, wholesaler to trading partner, retail DC to stores) **where GS1-based, aggregate level identification is used:**
  - a. Use SGTIN for all product marking above the unit pack and SSCC on all transport (logistics) units (aggregate Unique Identifiers)
  - b. Use linkage anticipated by Article 12 of the EU regulation 2018/574 to report the list of unit packs contained used the SGTIN or SSCC of the aggregate level.

- c. Make the “trade item level” directly above unit pack (e.g., carton of cigarettes) the minimum traded unit wherever a non-GS1 barcode on unit packs cause barcode scanner system performance issues
2. **For B2B trade where GS1-based, aggregate level identification is unavailable** (e.g., broken cartons to restock vending machines, large ‘make your own’ containers, damaged cartons): manage exceptions of non-GS1 unit pack solutions (all countries except Spain and Portugal). To do so, you may need a workaround for each scenario in each Member State. Some considerations to manage non-standards-based implementations may include:
- a. Deploy one scanner for supply chain and another for EU 2018/574 reporting
  - b. Obtain a scanner that can scan and process both barcodes, then train your operators which barcode to scan for each purpose
  - c. Double reporting may be required, first to the Secondary Repository for EU 2018/574 reporting using non-GS1 messaging and then between trading partners for supply chain using GS1 messaging (GS1 is working with Dentsu to eliminate this when recommendation 2 is available to GS1 members)
3. **Barcode implementation:**
- a. Where tobacco products are scanned, deploy 2D capable, imaging-based scanners and ensure they can support GS1 and non-GS1 versions of all barcodes required.
  - b. Use SSCC in GS1-128 for logistic units. Where information beyond SSCC is required in the barcode, encode SSCC in GS1-128 (for backward compatibility) and SSCC plus the additional information in GS1 DataMatrix (preferred) or GS1 QR Code. Once imaging-based scanners are pervasively deployed in a market, remove GS1-128 from the package.
  - c. For packaging levels above the unit pack that also cross the retail point-of-sale (cartons) or wholesale sales of cartons, master-cases, use GTIN in the EAN/UPC barcode and SGTIN (with a manufacturer determined SN) in GS1 DataMatrix (preferred) or GS1 QR Code.
  - d. For packaging levels above the unit pack level that are never sold at point-of-sale, use SGTIN (with a manufacturer determined SN) in GS1-128. Where information beyond SGTIN is required in the barcode, encode SGTIN in GS1-128 (for backward compatibility) and SGTIN plus the additional information in GS1 DataMatrix (preferred) or GS1 QR Code. Once imaging-based scanners are pervasively deployed in a market, remove GS1-128 from the package.
  - e. Where industry decides to support non-GS1 versions of Data Matrix, QR Code, Code 128, and Dot Code (e.g., per recommendation 2 and 4, option c):
    - i. Obtain ID Issuer specifications of UI structure including the start pattern to achieve the appropriate ISO/IEC 15424 symbology identifier, ANSI MH10.8 Data Identifier(s), and if applicable, group separators
    - ii. Printing must produce barcodes according to ID Issuer specifications
    - iii. Scanning must be programmed to use the symbology identifier and potentially the UIC (identifying the ID Issuer) then process each UI according to each of ID Issuer’s specifications

#### 4. Avoiding POS disruption of non-GS1 identifiers / barcodes on unit packs:

As more retailers move to 2D capable, imaging scanners or enabling the option of 2D, non-GS1 upUI barcodes will be picked up unintentionally even when the GS1 barcode with GTIN is on the unit pack. This is particularly true where flatbed scanners are used, but confusion will also result for operators and consumers who attempt to scan the non-GS1 upUI barcode and get an error. This will require training of retail operators and programming (scripting) scanners to filter on the GS1 barcode that is intended to be scanned. The scripting can cause slight delays and will require regular updates.

Based on the specifications available to GS1 as of this publication date: two countries, Portugal and Spain, fully embrace GS1 identifiers and GS1 barcodes; three countries, Belgium, Germany, and Luxembourg, make an 'optional' provision for embedding a GTIN within their unit pack code specification, but GTIN cannot be relied upon to be present as it is not mandatory, it requires reprogramming of scanners to support MH10.8 Data Identifiers and find the GTIN as there is no separate data qualifier for the GTIN and it appears in various positions in the different codes; 23 countries either have no support for GTIN or no publicly available specifications. For any of the 23, that might accommodate GTIN in the future, the same requirements as for Belgium, Germany, and Luxembourg would apply. The use of GS1 Standards is voluntary, and GS1 cannot mandate the use of any standards. Based on this, GS1 developed a series of suggestions for GS1 members to consider where non-GS1 standard identifiers and barcodes will appear on unit packs sold B2C. It is our hope that these suggestions will help to reduce disruption for retailers.

For B2C retail in markets where GTIN-based unit pack serialisation was not adopted and where exposure to non-GS1 unit pack UI barcodes causes scanner system performance issues (e.g., scanned but not recognized), the following suggestions should be considered:

- a. Distribute (pick & pack operations) / sell to consumers only above the unit pack level
  - b. Distribute and sell at the unit level after reprogramming the scanner to filter out the non-GS1 based identifier and barcode
  - c. Distribute and sell at the unit level and reprogram your scanner systems to support non-GS1 barcode and MH10.8 Data Identifiers (when GTIN is present in the code and causes no interference with EAN/UPC barcode scanning performance).
5. **Human-Readable Text:** ID Issuers who have adopted a GTIN-based unit pack UI, now permit pre-printing of GTIN on pack and elimination of the AI values. Additionally, in an effort to minimize downstream disruption, Dentsu now supports the elimination of the time stamp in human-readable text where the timestamp is also encoded in the barcode. Taken together, GS1's GTIN-based unit pack identifier is one of the shortest inline-printed, human-readable text counts available in the EU market.
6. **Data Sharing:** In Portugal, Spain, and all countries where economic operators can apply recommendations 1 or 2, migrate to one set of event and order-invoice-pay messages once Dentsu-GS1 EPCIS and EDI messaging interfaces are ready.

## Potential Advantages to GS1 Members

The above recommendations may:

1. Support compliance and minimize economic impact by using the systems you have already implemented today
2. Resolve POS performance issues caused by non-GS1 barcodes
3. Avoid implementing various non-GS1 identifiers, without GTIN or GTIN reliably present in a non-GS1 barcodes, implementing the MH10.8.2 Data Identifier standard, or waiting for DotCode implementation to occur
4. Enable fully GS1 compliant, EPCIS and EDI data sharing solutions, which may allow one business message to support supply chain transactions and EU 2018/574 reporting requirements

For more information contact GS1 at [fit@gs1.org](mailto:fit@gs1.org) or visit <https://www.gs1.org/standards/fighting-illicit-trade>